

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A green cicer bean combine comprising:
a motorized vehicle;
a cylindrical drum having a forward end and a rearward end, the cylindrical drum being rotatably mounted in the motorized vehicle, wherein the drum has a plurality of apertures therethrough sized to accommodate green cicer beans; and
a plurality of beaters rotatably mounted in the motorized vehicle and extending longitudinally through the cylindrical drum; each beater rotatable about an axis offset and parallel to a rotational axis of the cylindrical drum;
wherein the apertures in the drum are between about 0.125 and 1.00 inch in diameter, and further, wherein the apertures increase in diameter from smaller at the forward end to larger at the rearward end.
2. The green cicer bean combine of Claim 1, wherein the smaller apertures are about 0.6 inch in diameter and the larger apertures are about 0.75 inch in diameter.
3. The green cicer bean combine of Claim 1, wherein the smaller apertures are about 0.35 inch in diameter and the larger apertures are about 0.63 inch in diameter.
4. The green cicer bean combine of Claim 1, wherein the cylindrical drum is driven to rotate at about 10 to 50 rpm.
5. The green cicer bean combine of Claim 4, wherein the cylindrical drum is driven to rotate at about 28 rpm.
6. The green cicer bean combine of Claim 1, further comprising a hopper for receiving de-podded cicer beans, and a conveyor system adapted to convey the cicer beans from the drum to the hopper.
7. The green cicer bean combine of Claim 6, wherein the conveyor system includes a longitudinal conveyor disposed directly below the cylindrical drum, a bucket conveyor extending from the longitudinal conveyor to the hopper, and a pod net conveyor

disposed generally over the hopper, the pod net conveyor having a plurality of apertures therethrough.

8. The green cicer bean combine of Claim 7, wherein the apertures in the pod net conveyor are between about 0.125 and 0.88 inch in diameter.

9. The green cicer bean combine of Claim 8, wherein the apertures are about 0.43 inch in diameter, in order to accommodate desi-type cicer beans.

10. The green cicer bean combine of Claim 8, wherein the apertures are about 0.63 inch in diameter, in order to accommodate kabuli-type cicer beans.

11. The green cicer bean combine of Claim 7, further comprising a return mechanism positioned to receive cicer beans from the pod net conveyor that are larger than the pod net conveyor apertures and return the received cicer beans into the cylindrical drum.

12. The green cicer bean combine of Claim 4, wherein the plurality of beaters comprises a relatively large main beater and at least three relatively small satellite beaters.

13. The green cicer bean combine of Claim 11, wherein the main beater is driven to rotate at between 50 and 250 rpm.

14. The green cicer bean combine of Claim 11, wherein the main beater is driven to rotate at about 125 rpm.

15. The green cicer bean combine of Claim 13, wherein the satellite beaters are driven to rotate at between 150 and 500 mph.

16. The green cicer bean combine of Claim 14, wherein the satellite beaters are driven to rotate at about 375 rpm.

17. A method of harvesting green cicer beans comprising the steps of:
measuring the tenderness of a sample cicer bean from a crop of cicer beans with a tenderometer to determine a tenderometer reading;

maneuvering a threshing combine through a field of cicer beans if the tenderometer reading is between about 110 and 125, wherein the threshing combine includes a head, a cylindrical drum, a main beater and a plurality of satellite beaters, wherein the cylindrical drum includes an outer wall having a plurality of apertures that is sized between 0.125 inch and 1.00 inch in diameter, such that de-podded cicer beans can exit the cylindrical drum through the apertures;

conveying the cicer beans to a pod net conveyor disposed over a hopper, wherein the pod net conveyor includes a plurality of apertures having a diameter between 0.125 inch and 0.88 inch, such that cicer beans smaller than the apertures will fall into the hopper; and

conveying cicer beans larger than the apertures on the pod net conveyor back to the cylindrical drum for further threshing.

18. The method of Claim 17, wherein the threshing combine is maneuvered through the field if the tenderometer reading is about 117.

19. The method of Claim 17, further comprising rotating the cylindrical drum at between 10 and 50 rpm.

20. The method of Claim 19, wherein the cylindrical drum is rotated at about 28 rpm.

21. The method of Claim 19, further comprising rotating the main beater at between 50 and 250 rpm, and rotating the satellite beaters at between 150 and 500 rpm.

22. The method of Claim 17, wherein the cylindrical drum comprises at least a forward section having smaller apertures and a rearward section having larger apertures, and wherein the smaller apertures are about 0.6 inch in diameter and the larger apertures are about 0.75 inch in diameter, to accommodate the kabuli-type cicer bean.

23. The method of Claim 17, wherein the cylindrical drum comprises at least a forward section having smaller apertures and a rearward section having larger apertures, and wherein the smaller apertures are about 0.35 inch in diameter and the larger apertures are about 0.63 inch in diameter, to accommodate the desi-type cicer bean.

24. The method of Claim 22, wherein the combine is maneuvered at about 2.5 mph.

25. The method of Claim 18, wherein the plurality of satellite beaters comprises at least five satellite beaters, and wherein the satellite beaters rotate at between 150 and 500 rpm.